# NAVAL POSTGRADUATE SCHOOL
# Monterey, California



# THESIS

ACQUISITION OF ENGINEERING SERVICES

by

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The acquisition workforce has undergone tremendous downsizing in recent years. Agencies' workforces have likewise reduced in numbers but the numbers of programs they support have increased. The majority of the Navy Material Support Office's acquisitions are for acquiring engineering services from several different sponsors with varying types of funding. Currently the majority of our contractual actions are placed through Indefinite Delivery, Indefinite Quantity (IDIQ) contracts, with Task Orders (TOs) issued as work materializes. But the administration of awarding these TOs, is very labor intensive. An alternative contract with Technical Direction Letters (TDLs) was recommended. However, the type of engineering services procured may not be compatible with TDLs. Therefore, this thesis will thoroughly investigate both types of contracts. A survey of six Navy organizations will look at their processes to investigate how each agency handles the issue of varying sources of funding, sponsors, and urgency of tasks.

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ACQUISITION OF ENGINEERING SERVICES

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requirements for the degree of

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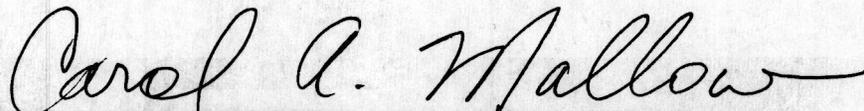
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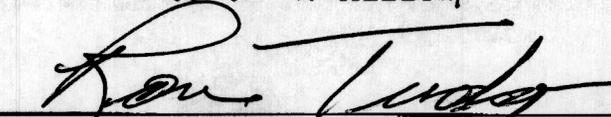
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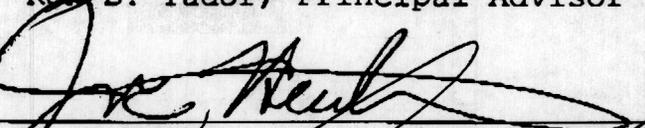
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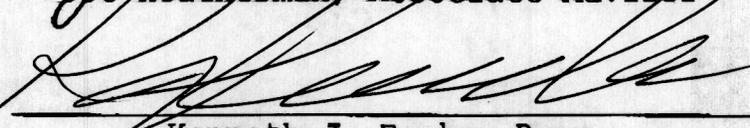
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# ABSTRACT

The acquisition workforce has undergone tremendous downsizing in recent years. Agencies' workforces have likewise reduced in numbers but the numbers of programs they support have increased. The majority of the Navy Material Support Office's acquisitions are for acquiring engineering services from several different sponsors with varying types of funding. Currently the majority of our contractual actions are placed through Indefinite Delivery, Indefinite Quantity (IDIQ) contracts, with Task Orders (TOs) issued as work materializes. But the administration of awarding these TOs, is very labor intensive. An alternative contract with Technical Direction Letters (TDLs) was recommended. However, the type of engineering services procured may not be compatible with TDLs. Therefore, this thesis will thoroughly investigate both types of contracts. A survey of six Navy organizations will look at their processes to investigate how each agency handles the issue of varying sources of funding, sponsors, and urgency of tasks.

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# I. INTRODUCTION

## A. BACKGROUND DISCUSSION

The acquisition workforce has undergone tremendous downsizing in recent years. Agencies' workforces have likewise reduced in numbers but the numbers of programs they support have increased. This has forced the agencies into finding ways of doing more with less.

Currently the majority of our contractual actions are placed through Indefinite Delivery, Indefinite Quantity (IDIQ) contracts, with Task Orders (TOs) issued as work materializes. The Navy Material Support Office (NMSO) procures a variety of products and services but the majority of acquisitions are for acquiring engineering services from several different sponsors with varying sources of funding. The IDIQ contract, with TOs, works well for these engineering services. But the administration of awarding these TOs, as well as other associated administrative duties, are very labor intensive.

NMSO Headquarters management is searching for another method other than IDIQ contracts to satisfy its customers. They have suggested using a contract with Technical Direction Letters (TDLs). One of the members of the current headquarters management worked for another agency that successfully used contracts with TDLs. However, the type of services NMSO is procuring may not be compatible with this type of contract with TDLs. Therefore, this thesis will thoroughly investigate both types of contracts.

This thesis is designed to investigate contracts with TDLs and IDIQ contracts with TOs; to uncover the types of services and products that are procured under each type of

contract as awarded by many different agencies. In addition, to investigate how each agency handles the issue of varying sources of funding, sponsors, program managers, and urgency of tasks.

The objective of this project is to determine the best contractual method, considering a reduced workforce, for satisfaction of customer's engineering services requirements, without violating any statutes or regulations.

## B.    AREA OF RESEARCH

This research will evaluate contracts with TDLs and IDIQ contracts with TOs and their utilization in the acquisition of engineering services. It will also review how other agencies use these contract types, the key problems and issues with each type and how the NMSO can utilize one and/or the other contract type to increase productivity and improve current processes.

## C.    RESEARCH QUESTIONS

1. To what extent might contracts with TDLs be utilized in the acquisition of engineering services in place of the current IDIQ type contracts, and what issues and problems must be resolved in order to adopt this acquisition method?

2. What is the contract with technical direction letter approach? How is it used by other organizations?

3. How does it differ from the current IDIQ methodology?

4. What are the implications of using one type of vehicle over the other from the perspective of: performance measurement, cost segregation, cost allowability, contract control (from a contracting

officers perspective) and required qualification and experience levels of the COR?

5. What are the key problems and issues when attempting to use this method?

6. What is the feasibility of adopting the TDL contract method in this organization?

7. What changes are required to the current use of this method to incorporate its use into the acquisition methods of the organization?

## D.   SCOPE OF THE THESIS

The scope includes a review of the contract with TDL approach, an evaluation of the current IDIQ methodology, and a feasibility study of implementing the contract with TDL approach in NMSO.   The thesis concludes with a recommendation for implementing either the contract with TDL approach or updating current IDIQ methodology.

## E.   METHODOLOGY

The methodology used in this thesis research consists of the following steps.

1. Conduct a literature search of books, magazine articles, CD-ROM systems, and other library information resources.

2. Conduct a thorough review of the use of contracts with technical direction letters.

3. Conduct a review of the use of IDIQ contracts with TOs.

4. Prepare a survey to distribute to Naval Air Systems Command (NAVAIR), Naval Sea Systems Command (NAVSEA), Space and Naval Warfare Systems Command (SPAWAR), SPAWAR Systems Center San Diego (SSCSD), SPAWAR Systems Center Charleston (SSCC) and NMSO to investigate the use of contracts with TDLs and IDIQ contracts with TOs.

5. Distribute survey to above agencies and conduct follow-on phone interviews to gather additional data as needed.

6. Conduct feasibility analysis for implementing the contract with TDLs approach in our organization.

7. Implement the contract type that has the greatest advantages to our organization.

## F.  ORGANIZATION OF THESIS

This thesis consists of five chapters.  The first chapter is an introduction, provides the structure, and lays the groundwork for the research methodology.

Chapter II defines engineering services, the contract with TDLs and the IDIQ type contract with TOs.  It provides background information on issues that effect engineering services, contracts with TDLs, and IDIQ contracts with TOs.

Chapter III provides the methodology used for selecting the agencies researched.  This chapter presents and reviews the answers to questions used to interview each agency.  The chapter then presents and reviews the follow-on questions presented to a selected subset of the initial survey body.  This information is the core set of data used that are analyzed in later chapters.

Chapter IV then analyzes the two main processes used for acquiring engineering services via a contract with TDLs or an IDIQ contract with TOs.  The chapter then discusses the present barriers against implementing these two contract types.  The chapter closes with a compilation of best practices.

Chapter V makes conclusions and recommendations and provides the summary of the answers to the primary and

subsidiary research questions.  Additionally, this chapter identifies areas that require further research.

**G.    BENEFITS OF THE STUDY**

This study will provide the Navy Material Support Office the necessary research to implement the contracting process that will enable our organization to continue to support all our customers with our current workforce.

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## II. OVERVIEW OF TWO CONTRACT TYPES USED TO ACQUIRE ENGINEERING SERVICES

### A.  INTRODUCTION

This chapter provides background information on what "engineering services" entails and two of the possible types of contract vehicles used to acquire engineering services.  First, it will present the definition of engineering services and then follows with examples of the types of services covered by this definition.  The next section will discuss the issue that has increased our procurement of engineering services at the same time our acquisition community has decreased.  The paper will then give a definition of a contract used with Technical Direction Letters (TDLs).  Next, it will review the Indefinite Delivery, Indefinite Quantity (IDIQ) type contract, which utilizes TOs.  The last part of this chapter provides an overview of the regulations and the procedures in place to acquire engineering services under the above types of contract vehicles.  Finally, this chapter concludes with a discussion on the issues involved in acquiring engineering services under the above two contract types.

### B.   ENGINEERING SERVICES DEFINED

To develop a working definition of Engineering Services, the two words will be considered separately, beginning with engineering.  Webster's New Collegiate Dictionary defines engineering as, "the application of science and mathematics by which the properties of matter and the sources of energy in nature are made useful to man in structures, machines, products, systems, and processes."

[Ref 1]  The same dictionary defines the second word, services, as, "useful labor that does not produce a tangible commodity". [Ref 2]  Combining the two definitions creates a working definition of the term "Engineering Services" as,  "the acquiring of labor, to manipulate data through systems and processes".  This manipulation includes research,  concept  evaluations,  integration,  software development,  system  upgrades,  testing,  operation  and maintenance as well as system analysis and installation, programming, network services and database planning and design,  exercise  simulation,  decision  and  operational support.  Even though the working definition seems simple, the manipulation of data covers a large number of different skills and knowledge.  The need to satisfy all the above tasks  in  one  contract  requires  a  flexible  contractual vehicle with a broad but comprehensive statement of work (SOW).

C.    ENGINEERING SERVICES ISSUE

In  recent  years,  there  has  been  a  major  change  in public policy mandating that any service or function which is "not  inherently  Governmental"  will  be  performed  by  a commercial entity via the A-76 Process.  The intent of this policy  change  was  to  significantly  downsize  the Government's  workforce.  However,  when  this  policy  was implemented,  the  policy  makers  did  not  take  into consideration  that  the  acquisition  community  was  the principal instrument for policy implementation.  Therefore, a  situation  exists  where  there  is  a  dramatic  increase  in the  need  for  contracting  engineering  services  during  the same  period  when  the  acquisition  community  is  being downsized.  This  conundrum  has  led  to  a  review  of  the

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traditional types of contracting instruments that have traditionally been used for the purpose of productivity.

## D.   CONTRACT WITH TDLS DEFINED

The first step in defining a contract with TDLs is to furnish the definition of a contract.  Federal Acquisition Regulation (FAR) Part 2.101 gives the following definition, "Contract means a mutually binding legal relationship obligating the seller to furnish the supplies or services (including construction) and the buyer to pay for them." [Ref 3]

TDLs are a vehicle utilized to provide technical direction to a contractor during the course of a contract. Even though the term, TDLs, is not found or specifically authorized in Federal regulations, this researcher found that some agencies, particularly the Navy, are using cost type contracts combined with TDLs to procure engineering services.  These agencies are placing cost reimbursement contracts that contain very broad Statements of Work (SOW) with contractors.  As engineering services materialize or incremental funding becomes available, TDLs are issued to direct the contractor to perform the tasks outlined in the TDLs.  Since the TDLs are not a legally binding contractual instrument, a modification to the contract must be issued.

## E.   IDIQ CONTRACTS WITH TOS DEFINED

The regulations governing IDIQ contracts are found in FAR 16.5 and DFARS 216.5.  As indicated in FAR 16.501-2, "The appropriate type of indefinite-delivery contract may be used to acquire supplies and/or services when the exact time and/or exact quantities of future deliveries are not

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known at the time of contract award." The IDIQ type of contract is used when flexibility is needed in both quantity and delivery schedule, there is a need to order services after the requirement materializes, and there is a need to limit the Government's obligation to the minimum quantity specified in the contract. [Ref 4] When a requirement for engineering services is known but uncertainty about the exact timing, quantity, or funding exists an IDIQ contract can be put into place. When the exact requirements do materialize, then TOs are placed against the contract. A task order resembles a contract in that it contains its own SOW and funding but it cannot stand-alone, it must be within the scope of the IDIQ contract.

## F. ISSUES CONCERNING TDLS

When conducting the literature search for background information on TDLs, the researcher found that there were limited articles concerning TDLs and most of them did not view the use of TDLs favorably. Excerpts from several of the articles are given as background information below. The Defense Acquisition Deskbook's "Ask a Professor" column was asked this question, "Are there any Federal publications that denote the proper procedures and processes for implementing and managing the TDL-type contract?" The answer indicated that the professor found the "CPFF (Cost Plus Fixed Fee) TDL contract" to be unique to the U.S. Navy and not a contract methodology utilized throughout DoD. The professor closed with this statement,

> I'm more familiar with the use of Technical
> Direction Letter as a vehicle to clarify
> technical specifications, and or technical

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direction. Used in this manner, the TDL never affects contract costs, and always has a clear statement essentially saying that direction is limited to matters that do not affect cost. [Ref 5]

In addition, William A. Mackinson, Senior Principal for the Naval Supply Systems Command (NAVSUP), issued direction on 12 Sep 88 which reported that even though TDLs were intended to clarify such things as time/place of performance or order of precedence in performing tasks, they were many times misused as pseudo delivery orders. He also reported that a great amount of discretion is being given to non-warranted technical personnel who are not trained but are establishing contractual obligations. One of his conclusions was:

> It has long been NAVSUP's viewpoint that improper use of "technical direction" letters results in severely diminished contracting officer control and oversight. Accordingly, NAVSUP has continually encouraged all field activities to curtail improper uses of this procedure, and to utilize contract types such as IDTCs with delivery orders to provide their specific requirements. [Ref 6]

Even though Mackinson did not specifically address whether the TDL adequately protects the Government's data rights, it is a valuable concern. His concern with, "severely diminished contracting officer control and oversight," can be seen when data rights are generated through TDL authorization. Government contract law is clear on this point. If data are not specified in the contract, then they are not deliverable. This gave rise to the Contract Data Requirements List (CDRL) as a means to mitigate the problem. When data rights are generated under a TDL, no

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CDRL is involved; therefore, the Government has no right to the data.

Although only those activities that fall under NAVSUP's authority are bound by its guidance, the quote is given to show how one activity has dealt with TDLs. Chapter III will show how other agencies are utilizing TDLs.

## G.    ISSUES CONCERNING IDIQ CONTRACTS

An agency gains an advantage by issuing its own IDIQ contracts.    The advantage comes from contract type flexibility afforded in FAR Part 16, considering appropriate risks, experience, complexity, urgency, etc. However, issuing TOs is also a very labor-intensive process.    When the requirement for the task order is finalized, the contract specialist must, in essence, perform all the same steps necessary to award a contract.

The task order requires a SOW and CDRLs from the technical personnel.    The contractor must in turn provide a cost proposal.    The contract specialist must perform a cost analysis and prepare a business clearance memorandum that states the cost proposal is fair and reasonable for the Government.    Even though some TOs can be relatively small dollar amounts and simple, they can be worth many millions of dollars and be quite complicated, which adds to the time needed to process them.    Even though TOs are not contracts, they are sometimes called mini-contracts because of the process and all the documentation necessary to award them.

## H.    BACKGROUND SUMMARY

The demand for engineering services is increasing during a time when Government acquisition personnel numbers

are decreasing. There is a great need to utilize the contractual instruments that allow agencies to satisfy their customer's demands with their limited personnel. In this chapter, the researcher reviewed the definition of engineering services, TDLs, and IDIQ contracts with TOs to provide a broad and descriptive background. The chapter then covered an overview of the regulations and trends associated with acquiring these engineering services through either TDLs or IDIQ contracts. The next chapter presents the survey results of how six Government agencies acquire engineering services.

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# III. DISCUSSION OF SURVEY RESULTS

## A.   INTRODUCTION

This chapter identifies and discusses the pre-award practices for acquiring engineering services and the post-award practices for administering engineering service contracts.  Here, the researcher presents the data gathered from two separate and distinct surveys presented to two different audiences.

The first survey was conducted with six Navy Organizations.  The initial interviews were conducted via site-visits, telephone calls and through electronic mail.  These interviews targeted the senior level acquisition professionals including Division Director, Deputy Director of Contracts, Branch Heads, Procuring Contracting Officers, and Contract Specialists.  The questions listed in Appendix A, if requested by the interviewees, were provided in advance to allow the interviewee time to gather information and prepare for the face-to-face visit or the telephone interview.   Most of the surveys were completed via telephone.  The questions, based on the literature review conducted in Chapter II, were designed to reveal whether the Organizations surveyed used TDLs or IDIQ contracts for its procurement of Engineering Services.  On one occasion, the interview was conducted via purely electronic media.  Fifteen interviews were conducted across the six Navy Organizations.

The second survey was conducted with a subset of the first interviewees, which included a representative from each of the Navy Organizations included in the initial survey.   The second or follow-on interviews, which were

conducted using the questions listed in Appendix B, were all completed via telephone. The questions from the follow-on survey were based on the literature review conducted in Chapter II. They were designed to gather information that is more detailed on the Navy Organization's use of TDLs and IDIQ contracts for procurement of Engineering Services.

This chapter is laid out as follows. First, the reasoning used for selecting the Navy Organizations interviewed during the initial survey is discussed. Next, responses to the questions asked during the initial survey, are discussed and summarized. Then, the reasoning used for selecting the subset of the Navy Organizations to be used during the follow-on survey is discussed. These sections are followed by a discussion and summary of the responses to the questions asked during the follow-on survey. This section is then separated by contracts into two parts - TDLs and IDIQ contracts with TOs. Finally, this chapter concludes with the Chapter Summary.

## B.   RATIONALE FOR INITIAL SURVEY

To stay informed of the latest technology and business processes in today's competitive world where information is copious, acquisition professionals must make good use of their time by interfacing with other companies in their same business line. Even though the strategic plans for all organizations within the Navy are not identical and they do not all buy the identical same items or services, the researcher included all major Navy Organizations in the initial survey to determine which organizations procured Engineering Services. For those Navy Organizations that

did, the researcher asked whether they used either TDLs or IDIQ contracts with TOs.

The Navy Organizations that were included in the initial survey, in alphabetical order, were: the Naval Air Systems Command (NAVAIR), the Naval Sea Systems Command (NAVSEA), the Navy Material Support Office (NMSO), the Space and Naval Warfare Systems Command (SPAWAR), the Space and Naval Warfare Systems Center Charleston (SSCC) and the Space and Naval Warfare Systems Center San Diego (SSCSD).

## C.   INITIAL SURVEY RESPONSES

At each organization, the persons interviewed were mid to upper-level contracting professionals that are actually involved in acquiring engineering services for their organization.  To assist each interviewee in determining whether their organization procured engineering services, the following definition of engineering services, prepared by the researcher, was read before the interview began. "Engineering service covers research including requirements and architectural definition technology investigation, concept evaluations, integration, software development, system upgrades, testing and evaluation, operation and maintenance as well as system analysis and installation, programming, network services and database planning, exercise simulation, decision and operational support." The initial interview was designed to determine which interviewees procured engineering services using both contracts with Technical Direction Letters (TDLs) and Indefinite Delivery, Indefinite Quantity (IDIQ) contracts with TOs.

Appendix A contains the actual survey, which included 19 questions that were asked of the fifteen respondents from the six Navy organizations during the interview process. The survey was laid out in three sections. The first section requested background information on the interviewee such as: name of agency, their name, email address, phone number, position and years in position. The second section requested information concerning their usage of TDLs to acquire engineering services. The questions under this section were:

1. Do you use technical direction letters?

2. If yes, what do you procure?

3. What were the contract types?

4. Length of contract?

5. Length of Time to put contract in place?

6. How many above type contracts did your agency award in Fiscal Year (FY) 00?

7. Average $ value?

The last section requested information concerning their usage of IDIQ contracts with TOs. The questions under this section were:

1. Do you use IDIQ contracts with TOs?

2. If yes, what do you procure?

3. Length of contract?

4. Length of Time to put contract in place?

5. How many above IDIQ contracts did your agency award in FY00?

6. Average $ value?

A summarization of the initial survey results is given below. The survey results showed that all six Navy organizations procured engineering services. Eight of the interviewees were using or had used a form of a TDL. Twelve of the interviewees were using or had used an IDIQ contract with TOs. The engineering services procured included: programmatic support, marine mammal training of dolphins, seal lions and beluga whales, navigational support, Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) solutions, acquisition support, logistics support, professional support services, counter measures, expendable training targets, software development, technical support services, Low Rate Initial Production (LRIP) of major weapons systems, and Engineering Manufacturing and Development (E&MD) of major weapons systems.

To assist in comparing the TDL contracts and the IDIQ contracts with TOs, the answers to the remaining questions contained in the initial survey will be presented below along with the answers received for the TDL contracts combined with the responses received for the IDIQ contracts with TOs for each question. Both cost and fixed price contract types were utilized when using TDLs, including firm fixed price (FFP), cost plus fixed fee (CPFF), cost plus award fee (CPAF), cost plus incentive fee (CPIF), and time and material (T&M). The contract type used under the IDIQ contracts with TOs was not asked during the initial survey, but was included as part of the follow-on survey.

The length of the TDL contracts ran the gamut from three months to fifteen years with the average running five years. Options of four to ten years were included in most

TDL contracts.  The length of the majority of the IDIQ contracts with TOs was five years, including a one year base with four one year options.

It took from one month to one year and six months to put TDL contracts in place.  Likewise, it took three months to two years to put IDIQ contracts with TOs in place.  The large variation depended on two areas.  The main variation depended on the complexity of the contract.  The second, on how the organizations measured their Procurement Administrative Lead Time (PALT), with some organizations beginning when the requirement was first introduced and some not starting the clock until it reached contracts.

The initial survey asked how many TDL and IDIQ contracts the organization put in place in FY 2000.  Since the survey was not administered until after the closing of FY 2001, the interviewer also added to the survey by asking how many contracts were put in place during FY 2000 and FY 2001.  Two of the interviewees that answered yes to using TDLs did not know how many contracts their organization awarded in FY 2000 or FY 2001.  The remaining interviewees had awarded from zero to twenty-five TDL contracts in FY 2000 and from zero to twenty-five in FY 2001.  Three of the interviewees that answered yes to using IDIQ contracts did not know how many contracts their organization had awarded during FY 2000 or FY 2001.  The remaining interviewees had awarded from three to thirty-seven IDIQ contracts in FY 2000 and from four to thirty-five in FY 2001.

The value of contracts with TDLs covered a range from $150,000 to $40,000,000.  The range for IDIQ contracts with TOs was $150,000 to $15,000,000,000.  That completes the summarization of the initial survey, the researcher will

now move to the follow-on survey presented to a subset of the initial respondents.

## D.    RATIONALE FOR FOLLOW-ON SURVEY

The researcher conducted a much more detailed follow-on survey with a subset of the initial respondents. The follow-on survey was broken down into two sections, the first covered contracts with TDLS; the second, IDIQ contracts with TOs. At least one respondent was chosen from each of the six Navy organizations. If one respondent had used both contracts with TDLS and IDIQ contracts with TOs, they were given both follow-on surveys. Contrarily, if one respondent had not used both types, then two respondents were chosen from the organization and given the survey that covered the type they had used. When the researcher had more than one respondent from an organization to choose from, the respondent with the most experience was chosen. Detailed follow-on information was gathered for both contracts with TDLs and IDIQ contracts with TOs from the same respondent from the Naval Air Systems Command (NAVAIR), the Naval Sea Systems Command (NAVSEA), and the Space and Naval Warfare Systems Center Charleston (SSCC). Two respondents each were interviewed from the Space and Naval Warfare Systems Command (SPAWAR) and the Space and Naval Warfare Systems Center San Diego (SSCSD). Only one respondent provided detailed information concerning IDIQ contracts with TOs from the Navy Material Support Office (NMSO) because no one from that office had used contracts with TDLs, even though they are investigating using TDLS on some future contracts.

**E.    FOLLOW-ON SURVEY RESPONSES FOR CONTRACTS WITH TDLS**

The TDL section of the follow-on survey was conducted to provide additional detailed information concerning the reasons for using a contract with TDLs, the processes utilized, and the strengths and weaknesses found. Appendix B contains the follow-on survey for the first section. The first section contains twenty-nine questions. These questions are laid out below in three parts. First, the researcher discusses the objective of the question, followed by a paraphrased response to the question and finally the researcher provides a summary of the responses. The responses are paraphrased to mask the individuals and Navy organizations providing the information. Every respondent did not answer every question.

**1.    What are you buying?**

***a.    Objective***

The first question was asked to demonstrate the types of engineering services organizations were buying.

***b.    Paraphrased Responses***

We procure professional support services that include developmental efforts.

Program support that includes financial management, engineering support, installation planning support, test and evaluation planning, and other logistics support as needed.

Procure LRIP and E&MD for major weapon systems that included engineering support and services as needed.

Expertise in Marine mammal care, training, observational experimental and ecological research, technical support and support services.

All our service procurements fall under C4I services which also includes navigational support.

  **c. *Summary of Responses***

All of the respondents using TDLs are procuring some form of engineering services, though these services are covering a broad area.

**2. Briefly describe your process**

  **a. *Objective***

The process used by each organization to prepare TDLs is considered one of the keys to the initial choice of contract type.

  **b. *Paraphrased Responses***

A technical representative notifies the Contracting Officer Representative (COR) of a technical requirement. The COR writes the TDL and forwards it to the Procuring Contracting Officer (PCO) for review. The TDL must include funds availability and labor hours needed. The PCO edits the TDL for accuracy and contracting content and returns the TDL to the COR. The TDL must contain the period of performance, number of people desired with their labor categories and number of hours, any references that the work must conform with, and Contract Data Requirements Lists (CDRLs). The COR completes a purchase request (PR), attaches the TDL and forwards the package back to the PCO. A bilateral modification is sent to the contractor. The contractor has a certain number of days to disagree with the labor categories and associated hours, or anything else concerning the modification. If the contractor has no problems, they proceed with the modification and attached TDL. If negotiations change the modification and TDL then a new modification is issued.

The TDL is prepared in writing by the COR and forwarded to the PCO.  The PCO reviews the TDL to make sure it is within scope and does not conflict with the terms of the Statement of Work (SOW) of the basic contract.  The TDL is then sent to the contractor.

All TDLs are prepared by the COR.  The TDL may not assign new work, change work to such an extent to justify an adjustment to the fixed fee, change costs or delivery terms of the contract.  The TDL is sent directly to the contractor.  If the contractor feels the TDL calls for effort outside the contract SOW, the contractor shall notify the PCO with a copy to the COR.

We never used anything called TDLS, but we did allow technical instructions.  These were instructions given by the COR to the contractor.  No process was formally written.

The technical requirements person and the contractor developed the TDL jointly, unless the technical person had enough information without involving the contractor.  The TDL includes a cost estimate.  The technical person and the contractor sign the TDL and forward it to the Program Office.  The Program Office verifies funding and forwards it to the COR.  The COR signs off saying the TDL is within scope.  The Comptroller shop receives it next and commits the funds.  The PCO receives the entire package and modifies the contract.

### c.    *Summary of Responses*

The TDL processes all begin with the technical representative, but then they vary greatly on how they are processed before the contractor receives them.  Three of the five organizations require approval of the TDL by the

PCO.  The other two do not involve the contracting shop at all.  Two of the organizations require that funding be attached to the modification when the TDL is issued.

**3.    Who issues TDLs?**

*a.    Objective*

This question was designed to clarify who was responsible for issuing the TDL to the contractor.

*b.    Paraphrased Responses*

The contract shop issues the modification with the TDL attached to the contractor.

The contract specialist issues the TDL.

The COR directly issues the TDL.

The COR after approval by the PCO issues the TDL.

*c.    Summary of Responses*

Someone in the contracting shop issues the TDL for three of the organizations.  Two of the organizations indicated that the COR was responsible for issuing the TDL.

**4.    How are TDLs issued?**

*a.    Objective*

This question was designed to identify differences in issuing TDLs that might not have been revealed when the process was being described.

*b.    Paraphrased Responses*

A letter is issued to the contractor with the TDL attached.

*c.    Summary of Responses*

Four of the organizations felt they had covered this question with their response to briefly describe the process.  One organization added that the TDL was sent to the contractor attached to a letter.

5. **Are your TDLS issued for task clarification? Explain.**

   *a. Objective*

   Questions five and six were used to distinguish between using TDLs as strictly technical clarification and using them to authorize a new task.

   *b. Paraphrased Responses*

   Yes, the technical representative issues a TDL when they need to clarify a task already outlined in the contract or authorize one task to start before another task.

   Yes, the COR issues technical instructions to clarify tasks.

   No, our TDLs are issued by contracts to authorize a new task.

   Yes, the COR issues TDLs to clarify technical direction.

   No, the COR issues the TDLs which are attached to modifications issued to the contractor.

   *c. Summary of Responses*

   Three of the organizations use the equivalent to a TDL to clarify technical directions where the other two use them to authorize tasks.

6. **Are your TDLs issued for task authorization? Explain.**

   *a. Objective*

   Question six was asked to stimulate discussion that would enlarge the research base on which the analysis would be drawn.

### b.   *Paraphrased Responses*

The answers given were the opposite of those paraphrased under question five, no new information was given.

### c.   *Summary of Responses*

No new information was given to summarize.

7.   **Why are you using TDLs?**

### a.   *Objective*

This question was designed to allow the interviewee to explain why they use TDLs to procure engineering services in lieu of another type of contract.

### b.   *Paraphrased Responses*

The interviewee did not know why TDLs were being used since they were not involved in awarding the contracts.  A recommendation was made to contact another employee who had been around during the award time.  The employee in question was asked only this question.  They also could not identify why TDLs were used for these contracts since they were being used like TOs, but they did report that their organization felt that TDLs were more efficient and took less administration.  In addition, this type of contract did not require the extensive time needed to close out a large number of individual TOs.

We have better control of the contract and process.  Under the previous contract, TOs were all issued as level of effort tasks, and a majority of them were never completed under the initial level of effort hours and funds.

I use TDLs because I inherited eight to ten contracts with TDLs when another agency was joined with our

organization.  I have converted almost all of them to IDIQ contracts, but a few still remain.

I am not currently using any contracts with TDLs but I think they should be used when the technical services are definable, with only changing priorities that need to be spelled out.  But no money is involved.

To manage work performed such as changing 100 hours to 4000 hours to reconcile a technical report.

### c.    Summary of Responses

The opinions given by all five organizations for why TDLs are used seem to indicate the opinion of the person being interviewed and not necessarily that of the organizations.  The opinions also depend on whether the organization uses TDLs as strictly technical clarification or as task authorization.  Three of the interviewees had positive responses to using TDLs, while the other two had negative experiences with using TDLs.

## 8.    How long does it take to put a TDL in Place?

### a.    Objective

The researcher realizes that the time to put a TDL in place depends largely on the organization's process, but even though the processes are different, the time available to put a TDL in place is still a valid measure of deciding to use such an instrument.

### b.    Paraphrased Responses

It takes from two weeks to two months depending on the complexity.

The average time to put a TDL in place is 90 days.

It takes five days to put a TDL in place.

I do not know because the Program office manages the process.

*c.* *Summary of Responses*

The organizations took from five days to three months to put TDLs in place, using a variety of processes. Two of the interviewees did not know since the TDL is issued outside their contract purview.

9. **What kind of contracts are you using with the TDLs?**

*a.* *Objective*

This question was designed to see how many different contract types were being used with the TDL contracts.

*b.* *Paraphrased Responses*

We use only CPAF.

All our TDLs are T&M under this current contract.

We use cost reimbursement contracts, mainly, CPFF.

The contract type is dependent on what we are procuring. We use CPFF, CPAF, CPIF and FFP.

We use level of effort contracts with CPFF and CPAF.

*c.* *Summary of Responses*

All the respondents agreed that the type of contract depended on what they were procuring. Four of the organizations were using cost reimbursement type contracts and only one of the organizations was using strictly T&M.

**10.  How are the CLINs set up for the TDL contracts?**

   ***a.   Objective***

   This question was asked to compare the basic contract line item number (CLIN) structure under which TDLs are issued.

   ***b.   Paraphrased Responses***

   Each subcontract line item number (SLIN) handles a different funding source for each sponsor.  We currently have over forty pages of CLINs including SLINs (1500 total).  If even one digit is different from that of a previous line of accounting (LOA), then a new SLIN must be issued.

   One CLIN is set up for each labor category, with additional CLINs designated for overtime, and hazardous pay CLINs that are fully burdened.

   One CLIN is set up for the base year and one for the option years.

   One CLIN is set up for the base year and one CLIN per option year.  SLINs are used for funding actions.

   ***c.   Summary of Responses***

   One organization that uses TDLs did not respond to this question.  The other four respondents all use a CLIN for the base year, but some use one CLIN for all options and some have a different CLIN for each option. Two of the organizations mentioned use multiple SLINs to designate the different types of money being used from each different sponsor.

**11. How do you account for different "colors" of money?**

   **a.   Objective**

   This question was used to investigate how organizations are accounting for many different types of money that may be used under a contract.

   **b.   Paraphrased Responses**

   A TDL is issued for each different color of money.

   We assign a different LOA.

   We have different contracts for each different color of money.

   We can only use one LOA for each SLIN, so we have a SLIN per each type of money.

   **c.   Summary of Responses**

   One organization did not respond to this question.  One organization has a different contract for each type of money because they purchase widely different things with different types of money and they never mix them on a contract.  One organization issues a separate TDL for each task and the type of money applicable to that task.  The last two organizations use a new LOA for each different SLIN.

**12.  How do you account for different sponsors?**

   **a.   Objective**

   This question is similar to the last question but further clarifies how different sponsors and their funding are handled under contracts with TDLs.

   **b.   Paraphrased Responses**

   A different TDL is issued for each sponsor's current task.

A TDL is issued per sponsor.

A contract with TDLs can handle multi-sponsors.

To handle different sponsors SLINS are used.

### c.    Summary of Responses

All the respondents allow for multiple sponsors but two of them handle it the exact same way. They both assign a new SLIN to each different sponsor's tasks and associated money. One of the organizations did not comment on how they would account for multiple sponsors, but they did comment that the contract allows for multiple sponsors. The last two organizations both issue a new TDL for each new task from a sponsor.

### 13.  How do you account for multiple Program Managers?

### a.    Objective

This question is still retrieving additional information on how organizations handle a variety of money from a variety of sponsors for a variety of program managers.

### b.    Paraphrased Responses

A new TDL would be issued for each new task from a program manager.

Each program office has at least one contract with one program office having contracts with nineteen contractors.

### c.    Summary of Responses

No responses were received from two of the organizations. A not-applicable response was received from one of the organizations. One of the organizations reported that a new TDL was issued for each new task from a program manager. The last organization did not report on

how TDLs are issued in regards to program managers but that each program office had at least one contract.

**14. How are changes to TDLs handled?**

### a. *Objective*

This question is designed to reveal the different ways organizations handle modifications to TDLs. The next question in the survey was answered by this question and therefore was not given. The answer to the next question of how long it takes to put a modification in place with TDLs attached was always, "It depends on what the modification is modifying," therefore, the researcher removed that question from the survey as well.

### b. *Paraphrased Responses*

We only modify a TDL if money is involved, other minor clarifications to tasks are done orally between the COR and the contractor.

A modification is issued to the contractor changing the TDL.

If changes are minor, the COR merely issues a modification to the TDL. If changes are major, the COR may have to cancel the original TDL and issue a new one.

### c. *Summary of Responses*

Two of the organizations had no response to this question. One organization always issues a modification to the contract if the TDL needs changing; another organization only issues a modification if money is involved. When the COR issues the TDL and contracting is not involved, it is up to the COR to decide when an official change is needed or if a new TDL is necessary.

**15.** **Is a TDL drawn up to add incremental funding?**

   ***a.*** ***Objective***

   This question was designed to reveal how different organizations handled adding incremental funding and whether the use of TDLs complicated the incremental funding process. The next question concerned the need to prepare a modification if a TDL was for clarification only. It was answered under question five, and therefore, the researcher did not repeat the question.

   ***b.*** ***Paraphrased Responses***

   A modification is put into place to add incremental funding but no TDL is involved.

   Yes, a TDL is drawn up to add incremental funding.

   No, a TDL is not needed to add incremental funding, only a modification to the contract.

   ***c.*** ***Summary of Responses***

   One organization did not respond to this question. Three organizations answered, "no" to the need for a TDL when incremental funding was being added and one organization responded, "yes" to the need for a TDL.

**16.** **If TDLs are created outside the contract shop, what issues has this created?**

   ***a.*** ***Objective***

   The objective for this question was to determine the consequences of having technical personnel issue TDLs without contracting involvement.

   ***b.*** ***Paraphrased Responses***

   We have an occasional TDL that is issued out of scope.

The PCO must sign every TDL.  Therefore, no TDLs are issued outside of the contract shop.

The two issues we encounter are: TDLs that change the scope of the contract; and TDLs that are out of scope of the contract.

No, the quality of the engineering staff is high and the scrutiny is higher, so we have no problems.  At my last command, the engineers did not seem to have any common sense, which was a big problem.

No, this is not a problem because the CORs have to be certified, and they have business sense.  If the COR did issue a TDL that was out of scope, the contractor would identify the problem before any work was started on the TDL.

### c.    Summary of Responses

Two of the organizations do have occasional problems with out of scope TDLs.  One of the respondents did not have any problems since the PCO signs every TDL. The other two organizations did not feel any issues were created because technical personnel issued TDLs outside of the contract shop; their technical personnel were well trained and competent.   In addition, one of the organizations had a safety net included in their process where the contractor was not authorized to begin work on any TDL found to be outside the scope of the contract.

## 17.  Problems encountered when putting contract in place.

### a.    Objective

This question was designed to see what problems might be encountered when awarding contracts that use TDLs.

### b.    *Paraphrased Responses*

We used level of effort contracts; therefore, we did not have any problems.

It was a horrendous one-year process to get the five contracts awarded.  The contracts were huge and had to be awarded on a team basis, which complicated the entire process.

Our organization did not award the contracts, and the TDLs were being misused as pseudo delivery-order contracts with no contracting input or guidance.

No problems were encountered.  We spelled out up front how the contracts would work; we wrote down the appropriate use of TDLs and included it in the contract.

The contract was already in place when I began administering the contract.

### c.    *Summary of Responses*

Two of the organizations already had contracts with TDLs in place; therefore, were not aware of any problems encountered during award.  One did comment on problems encountered when they inherited the contracts. Two organizations did not encounter any problems.  One organization found the process of putting large contracts in place with teams of contractors was a horrendous undertaking.

## 18.  Problems encountered when administering above contract.

### a.   *Objective*

When choosing a contractual vehicle, both the process of awarding a contract and the administration of the contract must be taken into consideration.   The problems encountered when awarding contracts with TDLs have

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already been discussed, this question addresses the problems encountered during administration after contract award.

### b.    *Paraphrased Responses*

Technical personnel wait until the last minute to begin their process of issuing TDLs.  Then they expect me to make up the time by working overtime and dropping all my other work to award the modification.  They also expect me to back date modifications if they miss deadlines.  They do not seem to be able to set priorities, and they expect that their task is my highest priority.  It is very time consuming to fix problems, time I never seem to have.  I encounter many scope and payment issues.

No, I have not encountered any problems.  Levels of effort tasks are not complex for the CPFF contract type. They deliver hours and we pay, no risk for contractor.  The more hours they use; the higher the fee they earn.

The contractor was not utilizing the personnel spelled out in the TDL.  They considered them as suggested labor categories per the contract, even though we were spelling them out on a bilateral modification.  The contractor was working a lot of overtime that we did not have money to pay for, and substituting less experienced labor.  The TDL now directs labor categories and hours. The contractor agrees to abide by them when he signs the bilateral modification.  This problem has been fixed.  It is a burden, and additional effort, to change the TDL and therefore have to issue another modification.

TDLs were issued without money being available on the contract, or TDLs were calling for tasks or items that were not allowable under the type of money being used.  No

formal documentation was being prepared by the COR or the contracting office.  The contracting office had no control over what was happening on the contracts.

No, we had full buy-in from all parties and everyone was doing their job.

### c.    Summary of Responses

Two of the organizations have encountered no problems with administering their contracts with TDLS.  One organization had a specific problem that arose because of the process they were using, which does not effect any other organizations.  The last two had a variety of problems including money, time and control issues.  All the problems mentioned were directly related to their relationship with the technical community.

### 19.  Strengths of using above contract

### a.    Objective

The problems associated with contracts using TDLs have been discussed; therefore, looking at the other side of the coin, and considering the strengths these contracts may have, is vital to an accurate comparison.  The next question also addressed the strengths of administering the contracts with TDLs.  Therefore, the duplicate question was not used.

### b.    Paraphrased Responses

Having control over what tasks are completed with certain labor categories, and corresponding number of hours, is the main advantage.  Another strength is being able to close out the base year or an option year shortly after it is complete.  After the contractor closes the year, they send a final voucher of the number of hours and total costs used.  The voucher is verified to the PCO

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records and any differences negotiated.  When we agree on the final hours and costs, a bilateral modification is issued to de-obligate any remaining funds.  Any remaining funds are returned to the sponsor.

Flexibility is the biggest strength.  Another strength is that bad or inaccurate forecasts of upcoming technical requirements are OK because changing requirements with TDLs are easy to manage.

The largest advantage to having five large contracts with TDLs is we now have one common process across all Program Offices.  Contractors are encouraged to use best practices on all contracts; we see this as contracting out brainpower.

They are flexible but technical personnel should not make financial decisions for the Government.

Sophisticated research and development (R&D) contracting is very flexible; changes can be easily issued as the contract develops.  This type of contract is very easy to use.

### c.    *Summary of Responses*

The most often mentioned strength of the contract with TDLs is its flexibility; even though one organization did have a caveat that technical personnel should be warned not to make financial decisions for the Government.  Many respondents also mentioned the advantage of being able to make changes to technical requirements as they develop. The strengths mentioned by one organization were only applicable if TDLs are used as they use them, and none of the other organizations use them the same way.

**20. Do you use advanced agreements that set labor categories and rates?**

### a. Objective

The purpose of this question is to see how different organizations set up their contracts to use TDLs and the actual TDL itself.

### b. Paraphrased Responses

A backup sheet attached to the TDL contains the estimated labor categories, labor rates, and travel cost but even though the sheet is to be a proposed estimate it is seen by both the technical community as a not-to-exceed total. Therefore, the contractor knows to treat it as a firm fixed price.

No labor categories or rates are preset. The only preset items are the not to exceed award fee or fixed fee and hours.

Yes, the loaded rates and labor categories are spelled out in the T&M contract.

Quote rates for bidding purposes are set in the contract.

### c. Summary of Responses

One respondent did not answer this question. The labor categories and rates were set by three of the organizations, but the rates were used for different purposes. One Organization used a T&M contract where rates must be preset, another organization attached estimated rates to the TDL that were used as not to exceed rates, which virtually turned a cost contract into a fixed price contract. The last organization put rates in the contract, which were only used for bidding purposes. The last organization did not preset labor categories or rates.

**21. What types of mechanisms do you use for cost and progress reporting?**

**a. Objective**

The significance of this question is to determine if the proper reporting mechanisms are in place to correctly monitor contracts with TDLs. The next question addresses the frequency of the reporting and is answered under this question.

**b. Paraphrased Responses**

We have several cost and progress reports in place. The 85% letter and monthly status report on progress are issued per TDL. To date, we have no costing report that utilizes hours.

Monthly reports are sent to the COR, Program Office, PCO and Administrative Contracting Officer (ACO). The ACO administers the TDL as well as the total contract.

The Virtual Project Office (VPO) contains the monthly status reports. The contractor puts the reports on the website and anyone with the proper password can review the reports.

**c. Summary of Responses**

All five of the organizations had some type of progress report in place. One of the organizations had only an electronic report and one had no cost data as part of their report.

**22. How do you know when a TDL task has been completed?**

**a. Objective**

The purpose of this question is to determine how the Government is made aware of the completion of a TDL task that was issued by the COR with no contracting office involvement. The researcher is aware that the process of

issuing TDLs does vary by organization; therefore, some TDLs are issued through the contracting office. This question addresses all organizations regardless of their TDL process.

### b.   Paraphrased Responses

Copies of modifications and reports are electronically distributed.

The contractor reports the completion to the COR.

The COR is notified of completion and the PCO gets a copy of the monthly status report, which reports completions.

The contractor contacts the COR who then reviews the progress.

### c.   Summary of Responses

One of the organizations did not respond to this question. Two of the organizations receive monthly status reports. The COR is notified by the contractor upon completion of the task for three of the organizations.

23.  **Are there any other issues concerning TDLs that we have not discussed?**

### a.   Objective

The purpose of the last question under the TDL section is to allow the interviewees to add any additional information concerning TDLs that the interviewer has not already asked.

### b.   Paraphrased Responses

All paperwork to award the contracts, as well as administer the contracts, is done electronically and the Contract Administrator keeps a hard working copy. The type of support received from the technical community is sometimes poor. Training would help the situation but even

after training was arranged, the technical personnel did not attend.  Five contracts that utilize TDLs were issued in September 1999: two of the contracts with higher volume have processed sixty-six and ninety-nine modifications, which increased the administrative burden.

The COR keeps copies of the TDL, all associated paperwork, and modified TDLs, which must be shared with the contracting office upon request.  To make this process work, all CORs are trained initially before they can issue TDLS and they must take a refresher course every three years.  Because of the disjointed approach to acquiring engineering services utilized by their organization, twenty-one multiple award IDIQ contracts were just put into place for use by the entire command.  Technical Instructions can be used on these TOs to clarify technical issues if needed.

The contract that uses TDLs was awarded in 1997; forty-seven modifications have been issued to date with sixty-four TDLs attached.

The process had a major problem when our organization inherited contracts that utilized TDLs because all the money was lumped together from several sponsors for a variety of tasks.  It was a nightmare to close out the contract since no one had tracked the money.  No new contracts with TDLs have been issued since the ten they inherited.  They will not issue another one unless they can define the tasks in the contract so negotiations are not necessary when issuing TDLs.  A contract with TDLs may be appropriate if you have one sponsor, one type of service, and one type of funding.  When the SOW is not defined in the contract, then TOs should be used.

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### c. Summary of Responses

One respondent did not have any additional comments. Training for the technical community on the proper use of TDLs was reported by two of the organizations. The higher number of modifications that are made to contracts with TDLs was another point made by two of the organizations. The remaining closing points to the TDL section of the survey were specific to each organization.

## F. FOLLOW-ON SURVEY RESPONSES FOR IDIQ CONTRACT WITH TOS

The IDIQ contract with TOs section of the follow-on survey was conducted to provide additional detailed information concerning the reasons for using an IDIQ contract with TOs, the processes utilized, and its strengths and weaknesses. Appendix C contains the follow-on survey for the second section. The second section contains twenty questions. These questions are laid out below in three parts. First, the researcher discusses the objective of the question followed by a paraphrased response to the question and finally the researcher provides a summary of the responses. The responses are paraphrased to mask the individuals and Navy organizations providing the information. Not every respondent answered every question.

### 1. What are you buying?

#### a. Objective

The first question was asked to demonstrate the types of engineering services organizations were buying.

#### b. Paraphrased Responses

We procure professional support services that include developmental efforts.

These include: research and development to improve maintainability, capability, and cost efficiency of aircraft components and parts, and installation and upgrades of broadband communications.

We are procuring basic research, prototype development, and support experimentation to utilize state of the art technology that evaluates battle space visualization, communication, human system interfaces and environmental representation for possible insertion in the next generation of Navy and Marine Corp C4ISR architecture.

We purchase Global Positioning System (GPS) technology, to include, product, testing, software services, and integration of GPS into another program.

All our service procurements fall under C4I services, which includes navigational support.

### c.  Summary of Responses

All the respondents using IDIQ contracts with TOs are procuring some form of engineering services, though these services cover a broad area.

## 2.  Briefly describe your process.

### a.  Objective

The process used by each organization to prepare TOs is considered one of the keys to the initial choice of contract type.

### b.  Paraphrased Responses

Our process is electronic.  We have twenty-one IDIQ multiple award contracts for the entire command and each requirement is put on the E-business Portal.  The first step is for the requirement originator to complete the electronic purchase request (PR) to designate what they need to procure.  The PR includes the SOW, source selection

criteria, period of performance, performance based criteria, sole source justification if applicable, and funding. Electronic mail (e-mail) is sent to the twenty-one contractors letting them know a PR is posted to the website. The contractors, who plan to post their proposal electronically, do so in accordance with the directions given. The source selection team picks the TO recipients and notifies them via email.

After they are notified, the COR sends the SOW to the contractor for review and cost proposal preparation. The COR prepares the TO package which includes a PR, SOW, CDRLs, security forms, and funding as a minimum. The package then goes to the contracting office. The contract specialist reviews the package, and where necessary, signatures are obtained; a cost memo is completed and a TO is prepared.

The technical code develops the requirement and sends a draft SOW to the contractor. The draft SOW is reviewed and signed by contractor. The contractor sends the signed SOW and cost proposal to the contracting office with a copy to the COR. The COR enters the complete package into Enterprise Resource Planning (ERP)(ERP is a business solutions database that all packages must go through to create electronic funding). The package is routed through finance to the Technical Assistance Office (TAO) and then to Contracts. The contract specialist issues the order unilaterally in Contract Writing Tool (CONWRITE), another electronic system. After the electronic file is completed, a copy is printed for the hard copy file. The contractor is sent the order.

The TO system is electronic at our command. The Request For Proposals (RFPs) is posted on the website where interested contractors submit a disk and a hard copy of their proposal. The Standard Procurement System (SPS) is used to prepare the TO and contracts. The contract administrator keeps a hard copy of the contract and TO files.

### c. *Summary of Responses*

Two of the organizations have completely electronic TO award systems. One organization has hard copy with electronic steps intermixed in their process. One respondent had a completely paper based system. All respondents have worked to reduce unnecessary steps from their processes. Two interviewees did not know the TO process since they only completed the last step- signing the TO. A copy of the process was requested but never provided.

## 3. Who issues TOs?

### a. *Objective*

This question was used to compare the TO process between organizations and see if the issuing of TOs involved anyone outside the contracting office.

### b. *Paraphrased Responses*

The contract specialist notifies the ordering officer that a TO is ready for signature.

The contract administrator issues the TO and forwards the file to the ordering officer for signature.

### c. *Summary of Responses*

All the organizations have contract specialists or contract administrators issuing TOs that are signed by either ordering officers with post-award warrants or PCOs.

4. **Why are you using TOs?**

   a. *Objective*

   This question was designed to understand the reasoning behind using the IDIQ contract with TOs to procure engineering services.

   b. *Paraphrased Responses*

   This type of contract can provide depth within certain areas of scope and is flexible.

   The broad R&D scopes of work require an IDIQ type contract. We do not know in advance, how the program will proceed.

   If what we are buying is not defined and we have many sources of money, we use an IDIQ contract. Our command was using IDIQ contracts because it made our statistics look better; we received credit for an award for every contract and task order awarded.

   This is the proper instrument since work is not defined when the contract is awarded, and types and amounts of money are unknown.

   The type of work we procure, such as engineering support services, brain think tanks and preparation of engineering reports, requires flexible TOs. When we cannot quantify exact timing or the extent of the work, we need an IDIQ. Nebulous work and unknown amounts of funding require IDIQs.

   TOs have more control and are easier to separate funding with. They have a defined beginning and ending. They are negotiated individually instead of having an open ended TDL, which can involve fraud, waste and abuse.

Our command was lacking in business intelligence, with overlapping requirements between program offices. We consolidated twenty-one multiple award contracts with TOs.

### c.    *Summary of Responses*

All the respondents reported that when work is not definitive, especially R&D type work, a TO contract is the correct instrument. Flexibility and control of funding were mentioned by several of the respondents.

**5.    How long does it take to put an IDIQ contract in place?**

### a.    *Objective*

This question is designed to see if the length of time it takes to award an IDIQ type contract influences using this type of instrument.

### b.    *Paraphrased Responses*

It took five months to award our twenty-one multiple award contracts.

Depending on the complexity of the contract it takes anywhere from an average of eight to nine months, with my shortest one taking only four months and my longest one taking a year and a half.

The length of time depends on the complexity of the procurement and the number of offerors, our range runs from six months to two years.

This measurement depends on when you start the clock, if you include the time taken before we ever see the package then add three months or more to the six month average.

Time to award a contract is highly dependant on the type and complexity of contract and services procured

and the extent to which the requirement was competed.   The
average time to award is four to six months.

### c.    Summary of Responses

All the organizations reported that the award of
this type of contract was dependant on the complexity, but
the average award time was six months.

### 6.    How long does it take to put a TO in place?

### a.    Objective

This question is designed to see how long the
various processes take among the organizations.   Depending
on the volume of task orders issued, this metric could have
extensive weight in choosing contract type.

### b.    Paraphrased Responses

From initial requirement, it takes seven days,
but if you only consider the contracts portion, it takes
only three days.

Our task order process takes fourteen days on
average with urgent tasks being completed in as little as
five days.

The task order process takes an average of five
days.

The process including requirements definition,
preparation, and evaluation takes an average of thirty
days.

### c.    Summary of Responses

The comparing of process times is dependent on
when the clock starts.   Some of the organizations begin
their clock when the requirement is created, where some
start when the package enters contracting.   Therefore,
comparing the numbers loses its significance.   The

respondents reported times ranging from as little as three days and as long as thirty days.

7. **What types of contracts are you using with the IDIQ?**

   a. *Objective*

   This question addresses the range of contract types that can be used under an IDIQ contract, to see how flexible the IDIQ contract can be.

   b. *Paraphrased Responses*

   We use cost reimbursement types such as CPFF, CPIF and CPAF as well as a FFP.

   We use only two types under our IDIQ, the CPFF and T&M.

   Cost reimbursement types specifically CPFF and CPAF are used on our IDIQ contracts.

   We use both CPFF and FFP on our IDIQ contracts.

   c. *Summary of Responses*

   The organizations used a variety of cost and fixed price arrangements on their IDIQ contracts. The CPFF was used most often by all organizations. Five of the respondents used FFP on some task orders and CPFF or CPAF on strictly R&D task orders.

8. **How do you account for different colors of money?**

   a. *Objective*

   The issue of different types of money is always an important issue whether you are using IDIQ contracts or contracts with TDLs. This question is designed to see the processes used by the different organizations in handling this issue.

### b. Paraphrased Responses

A separate task order is placed for each type of money.

A separate LOA is used for each color of money; you can have more than one LOA on a task order.

The task order can mix color of money, the CLIN is set up for the type of task order such as Fixed Price, and then the SLIN designate the color of money, one LOA per SLIN.

### c. Summary of Responses

The most frequent answer given was to award a separate task order for each type of money; three respondents gave this response. A couple of the organizations do mix types of money on the same task order.

### 9. How do you account for different sponsors?

#### a. Objective

This question was designed to research the different processes used by organizations to account for work funded by different sponsors.

#### b. Paraphrased Responses

We issue one task order for each separate sponsor.

We use a different LOA for each sponsor, same task order. We also separate the SOW; each paragraph is designated to match a LOA, which is tied to a separate sponsor.

#### c. Summary of Responses

The responses for this question were identical to the responses for the question above concerning how organizations handle different types of money, which relates to different sponsors.

**10. How do you account for multiple program managers?**

    *a.    Objective*

Several organizations deal with multiple sponsors with several types of funding and multiple program offices with many program managers. This question is designed to gather data from the organizations where this is applicable.

    *b.    Paraphrased Responses*

Our office only deals with one program manager.

We only allow one COR or program manager per task order.

    *c.    Summary of Responses*

The respondents to this question either left it blank or found it not applicable since their office only dealt with one program manager. One organization responded that they only allow one COR or program manager per task order.

**11. How long does it take to put a TO mod in place?**

    *a.    Objective*

The purpose of this question was to determine the types of modifications and length of time needed to modify task orders.

    *b.    Paraphrased Responses*

It takes two days to process incremental funding modifications and eight days to process most other changes.

SOW changes can take one week with incremental funding modifications taking only one day.

It would depend on the type of modification.

    *c.    Summary of Responses*

The most common answer was that the length of time to put a modification in place would depend on the

type of modification being processed.  Several respondents indicated that incremental funding modifications took only days while most other types of modifications took much longer.

     **12.  Problems encountered when putting contract in place.**

       *a.    Objective*

The purpose of this question is to make a comparison between contracts with TDLs and IDIQ contracts with TOs, regarding their problems and strengths.  The next several questions provide data to assist in this comparison.

       *b.    Paraphrased Responses*

It is difficult to define the scope of the contract to cover all directorates, twenty-three field activities and all program offices, and cover all the capabilities a contractor would need to perform all the tasks.

There are issues involved with scope and protests by contractors, when they do not get a contract.

It is difficult to write source selection plans (SSPs) that are understandable and useable.  Technical evaluation boards (TEBs) do not use the Source Selection Plan (SSP); they just judge the contractor by how they feel that day.  Sometimes contractors include items we never thought about, and the RFP is designed in such a way that we can't accept these ideas, even if they are a good ones. The bottom line is our RFPs are not flexible enough to allow the contractors to propose innovative solutions.

The multiple award requirements are time consuming and the CORs do not like it.  It is difficult to

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plan the requirement, write the SSP, and choose the correct evaluation factors. The SOWs are so broad that it is difficult to find one contractor that can do everything required. They must use a teaming approach, which adds complexity to the process of awarding and administering the resultant contract.

Describing the requirement in a performance based SOW and writing a corresponding SSP is difficult and time consuming. Waiting on the COR and technical community to provide missing data and keeping on a time schedule is problematic. Security requirements also complicate the entire process.

### c.    Summary of Responses

Defining the requirements and writing a performance-based SOW, with the corresponding SSP, was a problem for all the organizations interviewed. Several of the respondents had problems with their technical representatives being responsive and following SSPs. Only one organization mentioned a problem with protests.

## 13.  Problems encountered when administering above contract.

### a.    Objective

This question was designed to collect data on the problems encountered by the various organizations when issuing task orders and administering IDIQ contracts.

### b.    Paraphrased Responses

Our command does not have any issues yet, but we are early in the process.

Poor performance by the contractor has been a problem for our agency.

Unauthorized direction by the COR, acted on by the contractor, has been a problem. Task order packages outside the scope of the IDIQ contract are a problem. Lack of control on what labor categories the contractor uses and how many hours they expend.

Waiting on the COR to provide missing data and/or the initial package when a short turn around time is needed for issuance of the task order.

Adding subcontractors and consultants that were not approved on the basic contract is time consuming. The SOW is so broad that the program office is the only one who really understands the requirements and can accurately decide if the requirement fits within the scope of the contract. This makes it hard for the COR and the contract office to understand the requirement and issue the correct task order.

### c.    *Summary of Responses*

The responses given by the organizations were very broad and reflective of their individual organizations. One theme that several organizations mentioned was the problem with defining requirements that were within the scope of the IDIQ contract.

## 14.   **Strengths of using above contract**

### a.    *Objective*

This question was designed to gather information on the problems and strengths associated with IDIQ contracts.

### b.    *Paraphrased Responses*

When awarding a task order, no synopsis is required or protest is allowed. This is a real positive.

The ability to award real time tasks when needed and to react to changing conditions is a real strength.

Task orders are easy to issue, they contain broad scopes. Ordering authority, for other agencies to use, gives us additional fees and we can use other agencies contracts, which saves us time and money from awarding our own contracts.

The requirement is tied to funding so it is easy to track. Task orders can be very definitive and performance based, which makes performance easier to monitor.

### c. Summary of Responses

The strengths given by each organization for the use of IDIQ contracts were very different. Each respondent seemed to focus on a different aspect of issuing task orders. Several comments reflected the ease of issuing task orders after the difficulties in putting the IDIQ contract in place were solved. One respondent did bring up the issue that organizations can use other agencies' IDIQ contracts as long as their work falls within the broad SOW, which can save a lot of time and expense for all organizations.

### 15. Strengths in administering the contract

### a. Objective

This question was designed to gather additional information on the strengths of administering the IDIQ type contract with TOs.

### b. Paraphrased Responses

Task orders are easy to issue; exercising options is also easy.

The administration time is reduced.

The prime contractors that were awarded the twenty-one contracts are very strong. There are many opportunities to streamline the payment and invoicing process, which they are continuing to work. Many opportunities to improve the process exist.

### c.    Summary of Responses

The responses from the organizations were very dependent on the processes utilized in their organizations. Several did note that administration of task orders is an easy process.

## 16.    Do you use advanced agreements that set labor categories and rates?

### a.    Objective

This question was designed to gather information on the processes that might be utilized to increase efficiency when awarding task orders.

### b.    Paraphrased Responses

No, our organization does not set labor categories or rates.

### c.    Summary of Responses

All of the organizations reported that they do not set labor categories or rates in their IDIQ contracts for awarding task orders.

## 17.    What types of mechanisms do you use for cost and progress reporting?

### a.    Objective

This question is designed to see what types of reporting are used to monitor IDIQ contracts, and specifically, task orders issued under these contracts. The next question raised the issue of how often these reports were required. Both questions were addressed by the organizations simultaneously under this question.

### b. Paraphrased Responses

Monthly progress and cost reports are required from the contractor and sent to the COR, PCO and ACO.

The performance based task order requires more deliverables than other task orders.  We do use monthly reports.

### c. Summary of Responses

All the organizations use a monthly status report that is either posted on a website for all authorized individuals to use or sent to the COR, PCO and ACO.

## 18. Are there any other issues concerning IDIQ contracts that we have not discussed?

### a. Objective

The purpose of this last question is to allow the interviewees to add any additional information that the interviewer has not yet asked.

### b. Paraphrased Responses

The multiple award contracts include a rolling admission clause that allows our organization to add new prime contractors at any time, which adds to the competitive base.

When the technology is constantly changing, an IDIQ contract with TOs should be utilized.

Contract administrators do not have to get a rate check or audit to verify that contractor cost proposals are fair and reasonable for every task order.  If the audit or rate verification is less than six months old, it is considered valid, this decreases administrative time for issuing task orders.

When issuing contracts to procure R&D, we encourage our contracting staff to think outside the box.

### c. *Summary of Responses*

The closing points to the TO section of the survey were specific to each organization.

### G. CHAPTER SUMMARY

This chapter presents data gathered from interviews with senior level acquisition professionals including Division Director, Deputy Director of Contracts, Branch Heads, Procuring Contracting Officers, and Contract Specialists employed by six Navy organizations. The interviews were in response to two separate and distinct surveys. The surveys are presented as two separate sections identified as initial and follow-up. The interview responses were categorized and summarized the same for both surveys. Chapter IV analyzes the data presented in this chapter and compiles the best practices for acquiring engineering services via the contract with TDLs or the IDIQ contract with TOs. Chapter IV will close with a discussion of the present barriers against implementing these two contract types.

# IV. FEASIBILITY OF USING TDLS OR IDIQ APPROACH

## A. INTRODUCTION

The objective of this chapter is to analyze the data collected from the six Navy organizations and develop best practices for procuring engineering services in today's environment. The researcher will begin by presenting an analysis of the use of Technical Direction Letters (TDLs) when procuring a variety of engineering services. This analysis will consider the two main processes used by the five organizations interviewed and what weaknesses and strengths the two main processes reveal. The researcher then presents the same type analysis for the use of Indefinite Delivery, Indefinite Quantity (IDIQ) contracts with task orders (TOs). Next, the chapter reveals the barriers against implementation of either TDLs or the IDIQ contract with TOs. After considering all the processes used by the six Navy organizations, the researcher presents the best practice for procuring engineering services. Finally, this chapter concludes with the Chapter Summary.

## B. ANALYSIS OF TDLS

The TDL was a mechanism developed to help some Navy organizations clarify technical direction. A letter was issued to the contractor to clarify a technical issue or direct the contractor when they reached a fork in the road. These letters did not involve new tasks or funding. The increased use of the TDL can be directly linked to the public policy change to outsource all services or functions that are "not inherently governmental." At the same time, the acquisition community responsible for awarding these

engineering service contracts was decreasing.  Among the
Navy organizations using the TDL, the TDL process has
evolved along radically different roads, depending on many
factors such as leadership, technology, culture and
mission.  As the data in Chapter III reveals, the five
organizations that use TDLs have different processes but
two main processes have emerged over time.

The first process uses TDLs to give the contractor
technical clarification.  The technical community is
responsible for issuing and documenting their communication
with the contractor through TDLs.  However, the contracting
office is not involved with this use of TDLs.  The TDL is
written by the technical representative and sent directly
to the contractor.  The contractor determines if the
direction changes the scope of the contract and if
additional funding is required to complete the technical
direction.  If the direction is within the scope and
funding of the contract, the contractor proceeds without
involving the contracting office.  This process is, or was,
used by three of the Navy organizations surveyed.

The second process uses TDLs as a means of authorizing
new tasks and their associated funding.  The technical
community initiates these TDLs as engineering services
materialize.  The TDL includes the money available and
labor hours needed to complete this new task.  The TDL is
routed to the contracting office for verification that the
new work is within the scope of the contract and the
funding is appropriate for the type of services being
authorized.  The Contract Specialist prepares a
modification to the contract to add the new tasking and
associated funding.  Two of the Navy organizations use a

form of this process when using TDLs.  The researcher will provide a separate analysis of the two processes.

The analysis of the first TDL process reveals several strengths and weaknesses in using this approach for procuring engineering services.  The first strength results when using the TDL process for strictly research and development engineering requirements.  The requirements can be broad and allowed to develop as the research progresses. Allowing the technical representatives to communicate with the contractor gives the Government over sight and control in steering the development along the roads that will benefit the war fighter in the future.

One issue that arose during the research on allowing the technical community the power to interact with the contractor was the need for a highly competitive and trained technical workforce.  Of the three organizations where this process was used, the lack of training for technical personnel was seen by one organization as the biggest problem with using the TDLs.  For the other two organizations, the trained technical community was seen as a strong point and a necessity for the process to work the way it was designed.  This need for trained technical personnel is offset by the quick turnaround time between the development of a technical clarification and the contractor instituting the change is an important strength. In addition, by not requiring the involvement of the contracting shop in strictly technical clarification and guidance, valuable time is saved for the technical as well as the contracting personnel.  The first process for using TDLs also has several weaknesses.

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One weakness results from a strength just discussed, which is allowing the technical community to decide when the clarification has become a change that must be documented via a modification. The organizations where the technical personnel were not trained adequately found that technical personnel, who had no training or background to make such decisions, were making decisions affecting funding and new work. This weakness can grow when the contract awarded includes work from many different program offices, which may include several sponsors, and may include several types of funding. Accounting for all these variables was very difficult and even more so when the technical community was not adequately trained.

Another weakness found by the researcher is the need to identify the technical requirements and write a comprehensive Statement of Work (SOW) based on them that allowed the contractor to prepare a cost proposal, which could be evaluated by the source selection board and result in a contract that the contractor could complete. The technical community can issue TDLs if the need arises, but the contractor should be able to complete the majority of the SOW without assistance from the technical staff.

The second process identified above also has several strengths. By routing TDLs through contracts, trained contracting personnel can verify that the TDL is within the scope of the original contract and that the funding being used is appropriate for the work being completed. The organizations interviewed found that this process increased control by the technical community and the contractor. By spelling out the desired labor categories and hours utilized when completing the task, they control how the

contractor chooses to complete the task. Even though adding contracts to the review process is seen as adding controls to the process, this vehicle is still very flexible. This flexibility was listed as a strength by most of the organizations interviewed. The flexibility arises from the broad SOWs, which allow the technical community to obtain their requirements with few contracts. This second process of utilizing TDLs also has several weaknesses.

The major weakness identified is the increased administrative time and money involved when TDLs are routed through finance and the contracting office. The technical community sees these additional levels of review as adding time and money to the process without adding any value when putting a TDL in place. The increased time to get the TDL to the contractor can delay the work and jeopardize the outcome. This adds intense pressure on the last stop of the review process, which is contracting. One interviewee was under great pressure to back date modifications due to missed deadlines caused by technical personnel that waited until the last minute to start the TDL process.

Another weakness is the large number of modifications required when TDLs are used as task authorizations. One contract issued in 1999 was up to ninety-nine modifications. It was very time consuming keeping track of all the modifications that included work for several sponsors using different types of funding. To use one contract for so many program offices and sponsors, a different Line of Accounting (LOA) and Subcontract Line Item Number (SLIN) must be issued for each funding type used for each separate sponsor. When a contract utilizes

TDLs in this manner, the contract closeout process is not only complicated but also delayed until the closeout of the entire contract including all option years. The researcher has analyzed the strengths and weaknesses of both processes used to issue TDLs. The next section will look at the strengths and weaknesses of using an IDIQ contract with TOs.

## C.    ANALYSIS OF IDIQ CONTRACTS WITH TOS

The IDIQ contract with task orders is a contract type authorized by the Federal Acquisition Regulation (FAR). It allows the Government to award contracts for services even when the exact time or quantity of the service needed are not known. When the service materializes, task orders are put into place under the basic contract. This contract type is, or has been, utilized by all six of the Navy organizations surveyed. The processes used to award IDIQ contracts and the resulting task orders are similar, with the largest differences resulting from the amount of the process that is electronically completed. Therefore, the researcher will analyze the use of the IDIQ contract with task orders as one process similar to all organizations interviewed. The analysis will be broken into two parts, the strengths and weaknesses.

The first strength considered relates to R&D engineering services. Broad scopes are written, as necessary, to cover all the possible paths that may be taken as technology develops and matures. This allows the most flexibility for the contractor to structure the work as developments materialize. Since tasks are awarded one at a time, the technical community has more control over

what path a contractor should take and contractor performance is easier to monitor. The technical community and contractor can work as a team to develop the SOW since the contract is already in place. A task order can be placed with a well-defined SOW that allows the contractor to develop not only their technical plans but also a cost proposal for the individual task. Cost proposals can be more reflective of the actual task when the work is more definitive instead of having to prepare a cost proposal years in advance for undefined tasks. Even though this strength is very apparent when working with R&D engineering services, it is also true of more mature engineering services.

Another strength of using an IDIQ contract with TOs is accounting for several program offices, sponsors, and types of money. Separate tasks can be issued through individual TOs when work materializes from different program offices with different sponsors. Many sponsors require that their money is tracked and tied to specific tasks. When one TO is issued per sponsor, it is much easier to keep track of a sponsor's funding. Then, if the job is canceled before completion of the task, deobligating and returning any remaining funds is much easier.

Lastly, since awarding TOs is less cumbersome and quicker than awarding separate contracts for every task it is considered a strong point. In part, this results from not having to synopsize TOs, which saves time. The IDIQ contract also has several weaknesses.

The most mentioned weakness of the IDIQ contract with task orders is the amount of administration required to put the contract in place initially and award the subsequent

TOs. The awarding of TOs can be simplified but not eliminated. The process, especially the award of the basic contract is labor intensive. The push for electronic processing of all contractual actions is reducing some of the administration time. Unfortunately, while some organizations are completely electronic, others are still trying to work two systems, paper and electronic, which are creating duplicative processes. (This paper does not further address the issues involved in becoming a paperless office other than to just mention the differences being paperless can make in the awarding of task orders.)

All the organizations surveyed found the difficulty of defining the requirement up front to be a large weakness of putting an IDIQ contract in place. The broad SOW must cover all the possible tasks that may be required to complete the work. The requirements must be defined in performance based language to allow the contractor maximum flexibility. The SOW must be definitive enough to allow the contractor to prepare a cost proposal for competing purposes but broad enough to allow the placing of the actual tasks when they materialize years later. The scope of the contract usually has to cover similar work from all the program offices, field offices and sponsors and cover all the capabilities a contractor will need to perform all the tasks.

When this is coupled with writing a source selection plan (SSP) that is understandable and useable for the technical evaluation board, the job of defining the initial requirements and the follow on source selection documents can become daunting. Several of the organizations interviewed did not have technical personnel that

understood the requirements or possess the necessary training to write up those requirements in a manner that would encourage competition and share risk between the Government and the contractor evenly.  The next section will look at the best practices being used to acquire engineering services.

**D.    BARRIERS AGAINST IMPLEMENTATION OF TDLS**

The major barrier to implementing a contract with TDLs is the lack of developed tasks and associated funding at the time the contract is awarded.  If the requirements are sufficiently firm and can be predicted over the life of the contract, usually one base year with four one year options, then a contract with TDLs that allows the technical personnel to clarify tasks during the life of the contract is appropriate.  That is not the case when engineering services are being procured.  In addition, funding is provided incrementally from each sponsor, as tasks become firm, it is never provided when the contract is awarded.

Another barrier to using a contract with TDLs is the lack of proper training for the technical community.  For the TDL process to work, the technical community must have the power to interact with the contractor.  Management, both technical and contracting, must trust that the technical community will understand the requirements and acquisition process to enable them to make the best decisions when managing the contract without contractual input.

**E.      BARRIERS AGAINST IMPLEMENTATION OF IDIQ CONTRACTS WITH TOS**

The only barrier found to using IDIQ contracts with TOs is having the necessary contract administration personnel available to not only award the IDIQ contracts but to award the task orders as work materializes during the contract's period of performance.   With reduced contracting personnel, a heavy workload of task orders to award raises two key problems.

One problem is rushing to award a task order encourages contract administrators to perform very cursory reviews of contractor proposals, which could allow the contractor to receive a task order that has not been sufficiently reviewed and is not in the best interests of the Government.

The second problem is missing critical dates for task order awards.   Contractors have key personnel that they must keep satisfied if they plan to retain them.   If the period of performance on a task order ends and the new task order is not in place, the contractor must shuffle personnel to other jobs.   When the task order is awarded, those same key personnel may no longer be available.   For the contractor to keep costs down, especially on cost reimbursement contracts where the Government is paying all the costs, they must utilize economies of scale, which can be destroyed if tasks are not put into place in a timely manner.


**F.      BEST PRACTICES FOR ACQUIRING ENGINEERING SERVICES**

The researcher compared the eleven processes (five TDL processes and six IDIQ contract processes) being used to

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acquire engineering services across the six Navy organizations to prepare the best practice for acquiring engineering services described below.

The best practice that saves time and money for the contracting office while concurrently delivering a contractual vehicle that fulfills the technical requirements in a timely manner and gives the contractor flexibility to be innovative is a process that utilizes IDIQ contracts with TOs and is completely electronic. This electronic system combines the best practices of performance based SOWs and multiple award IDIQ contracts to encourage competition. Having the entire process posted on an E-business Portal allows concurrent reviews and approvals, which cuts administration time. The use of electronic contracting was not identified as a research issue; however, the researcher discovered during the investigation of the IDIQ type contract with TOs that electronic contracting systems is the only viable option to acquire engineering services with a reduced acquisition staff. A short discussion of the electronic system utilized to acquire engineering services through an IDIQ contract is provided.

This electronic process begins at the E-business Portal when the requirement originator completes the purchase request, which includes a SOW with performance based criteria, source selection criteria, and funding data. An electronic email is sent to the necessary reviewers when the electronic PR has been posted. The reviewers can concurrently review and make comments concerning the electronic PR package. The originator then goes in and makes all necessary changes at one time. When

the package is approved, an email is sent to the contractors who have been awarded an IDIQ contract. The contractors who want to propose on the requirement do so within the time frame specified. The source selection team reviews the electronic proposals and picks the task order recipient. The contract administrator prepares the task order document electronically and it is posted on the website. All required deliverables including monthly progress reports are posted electronically where all the usual recipients can concurrently review them.

The best practices outlined above allow the Government to fulfill their requirements while getting competition at the task order level. This competition allows the Government to choose the contractor with the highest innovations and the lowest cost. Using performance based SOWs that do not tell the contractor how to complete the SOW but only what the bottom line results should be, allows the contractor to propose innovative ways to get to the Government's bottom line. By using electronic commerce, the organization is fulfilling the requirement to go paperless and saving time with concurrent reviews and approvals. By using an IDIQ contract with TOs, the Government can track separate sponsors and different types of money as work materializes during the life of the contract.

## G.    CHAPTER SUMMARY

The six Navy organizations surveyed all procured engineering services in a slightly different manner, utilizing two main vehicles, contracts with TDLs and IDIQ contracts with TOs. This chapter presented an analysis of

the two main processes used to award TDLs and the process used to award IDIQ contracts with TOs. The weaknesses and strengths of each process were presented. Next, the chapter revealed the barriers against implementation of both TDLs and IDIQ contracts with TOs. The researcher then presented the best practice for procuring engineering services. Chapter V closes with conclusions and recommendations, followed by a summary of the answers to my research questions and areas that require further research. Chapter V concludes with a thesis summary.

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# V.    CONCLUSIONS AND RECOMMENDATIONS

## A.    INTRODUCTION

This thesis investigates two contract types that are used to acquire engineering services.  Both the contract with technical direction letters (TDLs) and the Indefinite Delivery, Indefinite Quantity (IDIQ) contract with task orders (TOs) are used successfully to acquire engineering services.  The six Navy organizations surveyed had successfully used the IDIQ contract with TOs; five of the organizations had successfully used TDLs.  Chapter V presents the conclusions drawn after analyzing the literature review and survey data.  Recommendations resulting from the conclusions are presented.  Next, the primary and subsidiary research questions are answered.  Areas for further research utilizing TDLs and IDIQ contracts with TOs to acquire engineering services are then presented.  The thesis summary closes the chapter.

## B.    CONCLUSIONS

Several conclusions are drawn from the literature review and survey data.  First, the technical personnel that are responsible for writing the technical requirements must be well trained.  This training should include writing performance-based statements of work (SOWs), preparing TDLs, and maintaining adequate files.  Basic contracting principals must also be included in the training for all technical personnel that issue TDLs.  One of the strengths recognized by the Navy organizations surveyed was well-trained technical personnel.  To realize the greatest benefit from using a contract with TDLs the technical

community must know and adhere to basic contractual and business principals.

The second conclusion drawn from this research is the need for well-written requirements. Ultimately, the requirements must drive the contract type utilized. If the requirements cannot be adequately defined when the contract is placed, and if funding is not available, an IDIQ contract with TOs is the contractual vehicle to use. Conversely, if requirements are firm but may need some technical clarifications throughout the life of the contract, then the use of TDLs is appropriate. One mistake seen in several of the organizations surveyed was the use of TDLs to save administration time for undefined and unfunded tasks. The organizations that tried to use TDLs like pseudo-delivery orders found that the lack of control over funding from separate sponsors, and the many modifications required to add TDLs as work materialized, did not save administration time in the long run, especially when closing out these huge contracts is considered.

An additional conclusion centralized around stakeholders. Whatever processes an organization uses to fulfill their engineering service requirements must take into account all the stakeholders. A process cannot be considered successful if all the stakeholder's goals are not being met, or at least considered. The main stakeholders under the scenario of fulfilling engineering service requirements include the technical originator, contractor, sponsors, and contracts office. The sponsor has an unfulfilled need and funds to accomplish the task. The requirement must be written by the technical originator

to assure that the contractor understands the requirement and has an opportunity to use their innovative practices in fulfilling the requirement.  In turn, the contractor must be allowed to receive a fair profit for its services.  The contracting office must be given adequate time and correct information to enable them to use the most appropriate contractual vehicle to satisfy the requirement.  The contract personnel must be involved in the acquisition of engineering services from the inception of the requirement to the closeout of the contract.  When all the stakeholders work as a team in a partnering relationship, everyone's goals can be met.

**C.    RECOMMENDATIONS**

1. The Navy Material Support Office (NMSO) must train the Contracting Officer Representatives.  The training needs to include how to turn engineering service requirements into a performance-based SOW and how to use basic contracting principals.

2. A team from NMSO needs to visit a Navy organization that utilizes TDLs to observe the process.  The observation should include the tasks performed by the technical originators and contracting personnel.

3. All the Navy organizations need to convert their manual processes to electronic processes.  The directive from the top of Department of Defense (DoD) is, "go paperless".  Much time and energy can be saved by fully converting to E-commerce.  This should include all steps of the process from requirement generation to contract closeout.

4. Technical, financial and contract employees need to take a funding class. The class should be interactive to allow all the parties to understand the restrictions and regulations each party is working under. The class should cover all the different types of funds used to acquire engineering services and the restrictions for each type of funds. Future classes to be attended by the technical, financial and contract team could include understanding technical requirements, statutes, regulations and converting to a paperless system.

D.    **RESEARCH QUESTIONS**

1.    **Primary Question**

**To what extent might contracts with TDLs be utilized in the acquisition of engineering services in place of the current IDIQ type contracts, and what issues and problems must be resolved in order to adopt this acquisition method?**

A contract with TDLs can be used on a limited basis. A majority of the engineering service requirements at NMSO are unknown at the time of requirement generation. Therefore, a performance based SOW cannot be written until the task materializes, which leads to using an IDIQ contract with task orders. In addition, the funding is also unknown at time of contract award. For the limited number of engineering service requirements that are mature enough to write a performance based SOW and funds are available upon contract award, a contract that uses TDLs should be considered. But, before the contract type is

finalized, the technical community must be trained to properly issue and maintain TDLs. To realize the time savings intended under the TDL process, the COR must be responsible for all TDLs issued, without contracting having to review each action. An administration clause for issuing TDLs should be jointly written by the COR and the Procuring Contracting Officer (PCO). This clause needs to be issued to the contractor with the Request For Proposal (RFP) to eliminate any misunderstanding concerning the use of TDLs.

2. **Subsidiary Question**

a. *What is the contract with technical direction letter approach? How is it used by other organizations?*

The researcher found that two main approaches for issuing TDLs were used by the five organizations interviewed. The first approach uses the TDLs to clarify technical direction. The trained technical representative issues the TDL to the contractor. The contractor reviews the TDL and decides if it is within the scope of the contract. If it is, and the contractor has adequate funding to complete the technical direction, the contractor proceeds. The contracting office is called only if questions concerning scope or funds arise. The second approach uses the TDL like a task order. A technical representative who forwards it through the review cycle to contracts issues the TDL. After reviewing the TDL, the contract specialist prepares a modification, attaches the TDL, and sends it to the contractor.

b. *How does it differ from the current IDIQ methodology?*

This question is answered differently depending on which TDL approach you compare. The approach where the

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technical representative issues the TDL directly to the contractor for technical clarifications is different in several ways.  The main difference is that the contracting office is not involved in direction given to the contractor.  This is not an issue as long as the directions do not change the contract.  The contract can only be changed by a modification issued by a contracting officer. When several sponsors and types of funding are used on the same contract, the tracking can become erroneous unlike the IDIQ methodology where separate task orders can be awarded for different sponsors and types of money.  The second approach for utilizing TDLs is not much different from the IDIQ contract with task order approach.  The TDLs are issued when tasks and funding materialize just like task orders.  The biggest difference is a modification to the basic contract must be issued for each TDL in lieu of writing separate task orders.  Closeout is handled differently under the TDL and task order approaches.  Under a contract that uses TDLs, closeout is at the end of the entire contract.  Separate task orders can be closed out upon completion.  Final indirect rates and vouchers can be submitted and processed under the task order approach on a task order basis instead of having to wait until the entire contract is finished.

> ### c.  What are the implications of using one type of vehicle over the other from the perspective of:  performance measurement, cost segregation, cost allow ability, contract control (from a contracting officers perspective) and required qualification and experience levels of the COR?

The researcher did not find any implications that using TDLs or task orders affected performance measurement.

A monthly progress report was issued under both vehicles to allow insight by the PCO and COR. Both offices should track the progress of the contractor to ensure that they are performing in accordance with the contract. Cost reimbursement contracts where the contractor receives their allowable and allocable costs plus a fixed fee hold higher risk for the Government and should be monitored by the Administrative Contracting Officer (ACO) as well as the COR and PCO.

Cost segregation for more than one sponsor or type of funds is complicated under a contract with TDLs. One of the organizations interviewed had a contract with over 1500 CLINs and associated SLINs to keep track of a variety of sponsors, program offices and types of funding. The award of IDIQ contracts with TOs allows segregation at the TO level, which is much less complicated.

Cost allowability can be an issue no matter what the type of contract. The use of TDLs can complicate this issue if the TDL authorizes work that is outside of the contract. The contractor has a duty to refrain from performing any work outside the scope of the contract. Technical representatives can be very forceful when deadlines are approaching and contract personnel are not involved in directions to the contractor. The issuance of TDL directions to the contractor that specifically state that the costs associated with work performed outside the scope of the contract is unallowable.

Contract control has many meanings. Contractors can use less qualified personnel than proposed under both contracts with TDLs and TOs. The key is to monitor, not direct performance. This should be done by the COR, ACO

and PCO. Quarterly progress meetings can uncover deviations from the intent of the contract. Control of what directions or clarifications are given to the contractor through the TDL must be accomplished through proper training. A spot check of the TDL and associated paperwork should be performed by the contract administrator to develop the trust necessary for the TDL approach to be successful.

The required qualification and experience levels of the COR are controlled by the PCO. The COR must be appointed and approved by the PCO before they can commence with their duties. CORs who are not qualified should not be given COR certificates. CORS should be trained before they write performance requirements and issue TDLs.

**d.   *What are the key problems and issues when attempting to use this method?***

The key problems and issues uncovered by the researcher are the lack of training for CORs, the lack of defined requirements, and funding. The need for training has been addressed. The need for a defined performance SOW is still an unresolved issue. The SOW needs to describe the work for a five-year period and allow the contractor to make a valid proposal. It is very hard to write a proposal for ill-defined requirements. The other issue that needs addressing is the lack of funding. Funding for research and development is tied to specific tasks and issued accordingly. Sponsors are not willing to put their money on a large contract with no guarantee that their money will only be used on their task.

> **e.** **What is the feasibility of adopting the TDL contract method in this organization?**

It is feasible to adopt the TDL approach, where the COR issues technical clarification, if requirements can be described to allow the contractor to propose and perform the work, with only clarifications from the COR. The majority of the current engineering service requirements at NMSO cannot be adequately defined at time of contract award. In addition, the funding is tied to a particular task and is not available until the task is issued. The last problem that makes the TDL unfeasible is the lack of trained CORs.

> **f.** **What changes are required to the current use of this method to incorporate its use into the acquisition methods of the organization?**

The problems with the TDL method are outlined under the question above. Changes must be made to the current IDIQ contract with TO approach to enable fewer contract specialists to continue to fulfill the engineering service requirements. CORs must be trained on writing adequate performance-based SOWs. This will increase the innovation used by the contractor and reduce wasted time and money on unclear requirements. Electronic processes must be used for all aspects of the award of contracts and task orders.

## E.   AREAS FOR FURTHER RESEARCH

1. Multiple award contracts allow competition at the task order level. This can raise innovation and lower cost, but it is very labor intensive and time consuming. Research is needed on streamlining methods for awarding IDIQ multiple award contracts and task orders.

2.  Only one of the six organizations interviewed was using electronic processing to perform contracting activities.  Several of the organizations had different electronic packages combined with paper systems.  Research is needed to see what processes need to be eliminated or changed to allow 100% electronic processing of all aspects of contract and TO award.

3.  What motivates the contractor?  This question needs to be answered before the right contract type that fully motivates the contractor can be designed.  Research is needed to find out what incentives the contractor needs to perform and share the risk.

4.  Does private industry use performance based SOWs?  Research is needed on what types of performance based SOWs are being used in private industry and how are they being written.

## F.    THESIS SUMMARY

The era of downsizing is not yet over.  The global economy demands that the Government sector continue to shrink.  Unfortunately, as more Government engineering jobs are awarded to private contractors, less acquisition personnel are available to award and administer these contracts.  The Government must find ways of doing more with less.  By training our technical personnel in writing performance-based requirements, we can utilize the contractor's innovation.  Likewise, the contracting office must continue to look for ways to satisfy the customer's requirements.  By awarding contracts that use TDLS when the requirements can be defined and allowing the technical

representatives to work directly with the contractor, administration time can be reduced.  Where requirements cannot be defined, an IDIQ contract with task orders should be utilized.  To save administration time, the technical representative and the contracting shop must work as a team to eliminate duplication.  Only by working together, can the customer's requirements continue to be met with declining assets.

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# APPENDIX A.  INITIAL SURVEY

Name of Your Agency _____

Your Name _____

Your Email _____ Your Phone#_____

Your position (circle one):       PCO          Negotiator          Administrator

Years in position _____

Do you use technical direction letters?   Yes   No   What were ktr types?_____

If yes, what do you procure? _____

_____

Length of Contract? _____ Length of Time to put contract in place?_____

How many above type contracts did your agency award in FY01? _____

Average $ Value _____

Do you use IDIQ contracts with task orders?     Yes      No

If yes, what do you procure? _____

_____

Length of Contract? _____ Length of Time to put contract in place?_____

How many IDIQ contracts did your agency award in FY01? _____

Average $ Value _____

Engineering service covers research including requirements and architectural definition
technology investigation, concept evaluations, integration, software development, system
upgrades, testing and evaluation, operation and maintenance as well as system analysis
and installation, programming, network services and database planning and design,
exercise simulation, decision and operational support.

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# APPENDIX B.   FOLLOW-ON SURVEY FOR TDLS

Name _____Do you use TDLs?_____

What are you buying? (exact language from SOW)_____
_____
_____

Briefly describe your process? _____
_____
_____
_____

Could I get a flowchart and copy of your process? _____

Who issues TDLs? _____

How are TDLs issued?_____

Are your TDLs issued for task clarification? Yes or No, Explain_____

Are your TDLs issued for task authorization?  Yes  or  No, Explain_____

Why are you using TDLs? _____

How long does it take to put a TDL in place?_____

What kind of contracts are you using with the TDLs?_____
_____

How are the CLINs set up for TDL contracts? _____

How do you account for different colors of money?_____

How do you account for different sponsors? _____

How do you account for multiple program managers?_____

How are changes to TDLs handled?_____

Are revised or new TDLs issued?_____

How long does it take to put a mod in place with TDLs attached?_____

Is a TDL drawn up to add incremental funding?_____

If a TDL is for technical clarification only is a mod done?_____

If TDLs are created outside the contract shop what issues has this created?_____
_____

Problems encountered when putting contract in place _____
_____

Problems encountered when administering above contract _____
_____
_____

Strengths of using above contract _____

Strengths in administering above contract _____

Do you use advanced agreements that set labor categories and rates? _____
_____

What types of mechanisms do you use for cost and progress reporting? _____
_____

How often are reports required? _____

How do you know when a TDL task has been completed? _____
_____

Are there any other issues concerning TDLs that we haven't discussed. _____
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# APPENDIX C.   FOLLOW-ON SURVEY FOR IDIQ

Name _____ Do you use IDIQ? _____

What are you buying? (exact language from SOW) _____
_____
_____

Briefly describe your process for issuing task orders? _____
_____
_____
_____
_____

Could I get a flowchart and copy of your process? _____

Who issues task orders? _____

Why are you using task orders? _____
_____

How long does it take to put an IDIQ contract in place? _____

How long does it take to put a TO in place? _____

What types of contracts are you using with the IDIQ? _____
_____

How do you account for different colors of money? _____

How do you account for different sponsors? _____

How do you account for multiple program managers? _____

How long does it take to put a TO mod in place? _____

Problems encountered when putting contract in place _____

Problems encountered when administering above contract _____
_____
_____

Strengths of using above contract _____

_____

Strengths in administering above contract _____

_____

Do you use advanced agreements that set labor categories and rates? _____

_____

What types of mechanisms do you use for cost and progress reporting? _____

_____

How often are reports required? _____

Are there any other issues concerning IDIQ that we haven't discussed. _____

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